EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The ABSTRACT has been amended as follows:

~~Provided is a~~ A method~~ology~~ and system for applying coatings onto the interior surfaces of components. The ~~approach~~ system comprises: a vapor creation device ~~(for example an electron beam or laser that evaporates a single or multiplicity of solid or liquid sources,)~~; a vacuum chamber having a ~~moderate~~ gas pressure ~~(~~between about 10^{-4} to about 10^{3} Torr~~)~~; and an inert gas jet having controlled velocity and flow fields ~~of gas jet~~. The gas jet is created by the supersonic expansion, through a nozzle, of a rarefied, inert gas ~~supersonic expansion through a nozzle. By controlling the carrier gas flow into a region upstream of the nozzle and upstream pressure is achieved (i.e. the gas pressure prior to its entrance into the processing chamber through the nozzle). The carrier gas flow and chamber pumping rate control the downstream (or chamber) pressure (i.e., downstream of the nozzle).~~ The ratio of the upstream to downstream pressure, along with the size and shape of the nozzle openings controls the speed of the gas entering the chamber. The carrier gas molecular weight ~~(compared to that of the vapor)~~ and the carrier gas speed controls its effectiveness in redirecting the vapor atoms via binary collisions toward the substrate. The speed and flux of the atoms entering the chamber, the nozzle parameters, and the operating chamber pressure can all vary leading to a wide range of accessible

processing conditions. Vapor created from a source is transported into the interior regions of a component using binary collisions between the vapor and gas jet atoms. Under certain process conditions, these collisions enable the vapor atoms to scatter onto the interior surfaces of the component and deposit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Phillip Fletcher III whose telephone number is (571)272-1419. The examiner can normally be reached on Monday through Friday, 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William Phillip Fletcher III/
Primary Examiner, Art Unit 1717

26 December 2011